Appendix D Distribution of Fishing Effort in the Hawaii-based Longline Fishery

This appendix discusses the distribution of fishing effort in the Hawaii-based longline fishery with particular reference to the area (north of 23°N) in which the current methods to mitigate seabird interactions are applied.

As shown in Table D-1, the percentage of active vessels fishing north of 23°N ranged from 76% to 99% between 1998 and 2003. Since 2001, the percentage of vessels fishing above this latitude has been around 91%. The reasons for the percentage changes that occurred between 1998 and 2000 or the relative stability in recent years are uncertain, but they are likely related to changes in the comparative productivity of fishing grounds. In 1998, for example, the longline fleet exerted more than the usual amount of effort in the U.S. Exclusive Economic Zone (EEZ) around Palmyra Atoll and Kingman Reef (south of 23°N) (pers. comm, Russell Ito, NMFS Pacific Islands Science Center, 12/06/02). More recently, there has been an increase in deep-set longline activity north of 23°N. Vessels have been catching large, high quality bigeye tuna in this area during the summer months.

Table D-1 Percentage of Active Hawaii-based Longline Vessels Fishing North of 23°**N, 1998-2003**.

	1998	1999	2000	2001	2002	2003
Number of active vessels	114	119	125	101	100	110
Number of vessels fishing north of 23°N	87	118	110	92	92	100
Percentage of vessels fishing north of 23°N	76%	99%	88%	91%	92%	91%

Source: WPRFMC 2004a and NMFS Pacific Islands Science Center.

Table D-2 shows that in 2003, there was no clear distinction between the number of vessels fishing above and below 23°N for different vessel size groups. However, fishing grounds north of 23°N accounted for 19% of the fishing effort (sets) of small vessels, 25% of the effort of medium vessels, and 30% of the effort of large vessels.

Table D-2 Distribution of Fishing Effort in the Hawaii-based Longline Fishery, 1998-2003[1].

Location	Vessel size	Number of vessels	Number of deep-sets	Number of shallow-sets	Total number of sets
1998					
North of 23°N	Small	12	141	74	215
	Medium	37	446	1,562	2,008
	Large	38	122	2,830	2,952
	Subtotal	87	709	4,466	5,175
South of 23°N	Small	19	1,880	67	1,947
	Medium	49	3,498	258	3,756
	Large	33	1,426	201	1,627
	Subtotal	101	6,804	526	7,330
		Total	7,513	4,992	12,505
1999					
North of 23°N	Small	17	654	42	696
	Medium	50	1,136	1,406	2,542
	Large	51	532	2,335	2,867
	Subtotal	118	2,322	3,783	6,105
South of 23°N	Small	19	1,540	78	1,618
	Medium	49	3,220	116	3,336
	Large	27	1,635	111	1,746
	Subtotal	95	6,395	305	6,700
		Total	8,717	4,088	12,805
2000					
North of 23°N	Small	14	249	81	330
	Medium	44	345	1,053	1,398
	Large	52	138	2,424	2,562
	Subtotal	110	732	3,558	4,290
South of 23°N	Small	19	1,821	73	1,894
	Medium	46	3,796	322	4,118
	Large	34	2,505	124	2,629
	Subtotal	99	8,122	519	8,641
		Total	8,854	4,077	12,931
2001					
North of 23°N	Small	13	283	33	316
	Medium	42	1,162	189	1,351
	Large	37	954	316	1,270
	Subtotal	92	2,399	538	2,937
South of 23°N	Small	18	1,801	3	1,804
	Medium	46	4,602	75	4,677
	Large	36	2,747	21	2,768
	Subtotal	100	9,150	99	9,249
		Total	11,549	637	12,186
2002					
North of 23°N	Small	11	356	0	356
	Medium	45	1,605	0	1,605

Location	Vessel size	Number of vessels	Number of deep-sets	Number of shallow-sets	Total number of sets
	Large	36	1,483	0	1483
	Subtotal	92	3,444	0	3,444
South of 23°N	Small	17	1,795	0	1,795
	Medium	47	5,021	0	5,021
	Large	38	3,625	0	3,625
	Subtotal	102	10,441	0	10,441
		Total	13,885	0	13,885
2003					
North of 23°N	Small	13	388	0	388
	Medium	48	1,703	4	1,707
	Large	39	1,744	0	1,744
	Subtotal	100	3,835	4	3,839
South of 23°N	Small	15	1,644	0	1,644
	Medium	52	5,230	0	5,230
	Large	43	4,023	0	4,023
	Subtotal	110	10,897	0	10,897
		Total	14,732	4	14736

[1]Vessels are classified by size (small <56 feet (ft), medium 56.1 ft to 73.9 ft, large >74 ft).

Source: NMFS PIFSC.